LISTING OF CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1 (Currently Amended): A method for a digital communication system comprising steps of:

performing error-correction encoding of digital data to produce error-correction encoded digital data;

transmitting the error-correction encoded digital data over at least one communication channel;

receiving the error-correction encoded digital data from the at least one communication channel to provide received error-correction encoded digital data;

decoding the received error-correction encoded digital data using a turbo decoding process to determine a decoded characteristic statistical quantity from a set of weighted output information; and

determining a decoded information quality parameter from the determined decoded characteristic statistical quantity and from at least one configuration parameter that is a system parameter indicating at least one of coding conditions, communication channel transmission conditions, and decoding conditions, said decoding conditions characterizing the system portion for which the decoded information quality is determined,

wherein the determined decoded information quality parameter is a numerical scalar or an integer number representing a probable number of errors existing in a set of decoded information items, and when the determined decoded information quality parameter is the

numerical scalar, using the numerical scalar to determine a weighting factor.

Claim 2 (Previously Presented): The method according to claim 1, wherein the determined decoded information quality parameter is used to determine said weighting factor after the decoding step.

Claim 3 (Previously Presented): The method according to claim 1, wherein the determined decoded information quality parameter is used to determine said weighting factor during a subsequent turbo-decoding process iteration of the decoding step.

Claim 4 (Previously Presented): The method as in any one of the preceding claims, wherein

the turbo decoding process includes elementary decoding steps each using part of the received digital data corresponding to a redundant information item associated with a corresponding elementary coding step, for generating an output including an information item comprising an extrinsic information item transmitted at least to one or more other elementary decoding steps, the turbo decoding process elementary decoding steps being iterated,

transmitting at least one extrinsic information item obtained during one iteration of the turbo decoding process to another iteration of the turbo decoding process, and

the determining of the decoded characteristic statistical quantity includes determining the decoded characteristic statistical quantity from a set of extrinsic information items at the output of at least one said elementary decoding step.

Claim 5 (Canceled)

Claim 6 (Previously Presented): The method according to claim 4, wherein the determined decoded characteristic statistical quantity is a mean of an absolute value of extrinsic information determined from the set of extrinsic information items.

Claim 7 (Canceled).

Claim 8 (Previously Presented): The method according to Claim 1, wherein the determining of the decoded characteristic statistical quantity includes characteristic statistical quantities determined during previous elementary decoding steps.

Claim 9 (Previously Presented): The method according to claim 8, wherein the determining of the decoded information quality parameter determines the decoded information quality parameter from the decoded characteristic statistical quantities determined during an elementary decoding step corresponding to last elementary decoding step in the turbo decoding process.

Claim 10 (Previously Presented): The method according to claim 8, wherein the determining of the decoded information quality parameter determines the decoded information quality parameter from a single decoded characteristic statistical quantity determined during

last elementary decoding step in the turbo decoding process.

Claim 11 (Previously Presented): The method according to Claim 1 wherein the determined decoded information quality parameter is the integer number representing the probable number of errors which exist in the set of decoded information items.

Claim 12 (Canceled).

Claim 13 (Previously Presented): The method according to Claim 1, wherein the at least one configuration parameter includes a parameter characterizing decoding conditions.

Claim 14 (Previously Presented): The method according to Claim 1, wherein the at least one configuration parameter includes a parameter characterizing transmission conditions.

Claim 15 (Previously Presented): The method according to Claim 1, wherein the at least one configuration parameter includes a signal to noise ratio.

Claim 16 (Previously Presented): The method according to Claim 1, wherein the determining of the decoded information quality parameter uses a predetermined algorithm allowing determining of the decoded information quality parameter as a function of one or more configuration parameters and one or more of the determined decoded characteristic statistical quantities.

Claim 17 (Previously Presented): The method according to Claim 1, wherein the determining of the decoded information quality parameter uses a predetermined reference table to select a decoded information quality parameter as a function of one or more configuration parameters and one or more determined decoded characteristic statistical quantities.

Claim 18 (Previously Presented): The method according to Claim 1, wherein each received information item is processed by means of N-bit decoding sequences to provide a set of decoded information items as a sequence of binary information items containing N symbols.

Claim 19 (Previously Presented): The method according to Claim 1, wherein each received information item is processed by means of decoding sequences to provide a set of decoded information items as a sequence of binary information items representing a fraction of a decoding sequence.

Claim 20 (Previously Presented): The method according to Claim 1, wherein the turbo decoding process includes elementary decoding steps each having inputs and outputs weighted in terms of probabilities, likelihood ratios, or log likelihood ratios.

Claim 21 (Previously Presented): The method according to Claim 1, wherein the

error-correction encoding comprises at least one puncturing step and the decoding using a turbo decoding process comprises at least one corresponding de-puncturing step.

Claim 22 (Previously Presented): The method according to Claim 1, wherein a number of communication channels are provided, each communication channel being configured to receive the error-correction encoded digital data for transmission thereon, with each channel being subject to different turbo decoding processes after being received, wherein the determined decoded information quality parameter is provided as a plurality of decoded information quality parameters obtained respectively at the end of each of the different turbo decoding process, the plurality of decoded information quality parameters being used to form different weighting factors.

Claim 23 (Canceled).

Claim 24 (Previously Presented): The method according to Claim 16, wherein there are a plurality of the configuration parameters and a plurality of the determined decoded characteristic statistical quantities.

Claim 25 (Previously Presented): The method according to Claim 17, wherein there are a plurality of the configuration parameters and a plurality of the determined decoded characteristic statistical quantities.